

duties which the author has learned to enjoy as well as to fulfil. In the midst of much that he and others regard as revolutionary in educational theory, and of many importunate claims on the part of "modern subjects" in schools, it is useful for us all to be reminded, as in this book, of what may be done in connection with the traditional discipline of the great public schools, when the work is undertaken by men who, though standing honestly *super vias antiquas* in regard to the staple of school teaching, are nevertheless profoundly conscious of the needs of our own time, and who look on scholarship, not as an end in itself, but mainly as a means to the higher end of Christian manhood and honourable citizenship.

#### OUR BOOK SHELF.

*The Dictionary of Photography.* By E. J. Wall, F.R.P.S. Revised and brought up to date by T. Bolas, F.C.S., F.I.C. 8th edition. Pp. iv + 656. (London : Hazell, Watson and Viney, Ltd., 1902.) Price 7s. 6d. net.

THE fact that the eighth edition of this dictionary is now published is the best of all evidence of the appreciation that it continues to receive. And this appreciation is deserved, whether one regards the work of the author or the reviser. So far as we have been able to examine the work, the information it gives is sound and useful. Mr. Bolas states that he has added nearly a hundred new pages of subject-matter, as many fresh headings and many new diagrams, but by a process of concentration and elimination has not increased the bulk of the volume so far as to render it unwieldy.

The great difficulty in compiling a book that aims at being something more than a simple guide for beginners and something more handy and less costly than a treatise that aims at approximate completeness, is to satisfactorily apportion the available space to the various subjects. As the needs of no two readers are exactly alike, a very wide margin must be allowed for the discretion of the compiler, but we notice a few cases in which the reviser might with advantage have extended his work of adding to the original, even if it necessitated still more "concentration and elimination." The page and a third devoted to "amphitype," for example, might well have been spared, while the six or seven lines devoted to "hypo-eliminators" might profitably have been expanded to a couple of pages. The getting rid of sodium hyposulphite is a problem that has to be attended to in the production of every negative and silver print, and even if all "eliminators" are regarded as useless, some are still on the market, and every thinking photographer wants to know something as to their mode of action, advantages and drawbacks.

Acetylene is very unfairly treated. After it has been in use for so many years as it has, and has proved to be so convenient, effective and safe, it must be a prejudiced view of it that leads to its consideration in less than a page, half of which is devoted to its endothermic and consequently supposed dangerous character, and the other half to its history and a statement that the "great hopes" concerning it have not been realised!

In the selected bibliography of photography some hundred and twenty books are mentioned, ranging from apparatus makers' pamphlets and beginners' guides to the most comprehensive works; but of the few books recommended for students by the City and Guilds examiners, presumably because of their educational value, we have counted nine in English, including three on general photography, that are not mentioned. This

difference can hardly be dismissed as due to the exercise of a wise discretion.

These are examples of the cases in which the reviser might have gone even further than he has in his additions, concentrations and eliminations. Doubtless he will do so when the next edition is called for.

*Die Entwicklung des Gesichtes: Tafeln zur Entwicklungsgeschichte der äusseren Körperform der Wirbeltiere.* By Carl Rabl. Part i., *Das Gesicht der Säugethiere.* With 8 plates. (Leipzig : Engelmann, 1902.) Price 12s.

THIS, the first of four parts of a comprehensive work, deals with the development of the external form of the head-region in rabbit, pig and human embryo. How many different vertebrate animals the author proposes to make use of for the purposes of the research is not stated, but it may be recognised that the net is cast widely enough when within its meshes so lowly an animal as the lamprey is to be contained. The figures of the eight folio plates, drawn by the author, are certainly exquisite, quite unique, indeed, of their kind. From others previously published they differ in two important respects. While the former rarely exceed a magnification of five diameters, the present ones possess three times this, and—a very important point—they are the first series of the kind to be lithographed by the firm of Werner and Winter. This is a sufficient guarantee that full justice has been done to the originals by the lithographer's art.

In fundamental features the drawings, perhaps, hardly reveal anything not already visible in the well-known pictures of pig and human embryos published by His and Keibel. Possibly novelties may be looked for in subsequent parts of the work. To the figures extant of normal human embryos, those here given will form additions welcome to the anatomist and the embryologist alike. As to the others, the one noticeable deficiency is that they stop short of and do not at all cover the period when, for instance, the pig-embryo first becomes unmistakably a member of the genus Sus, a representative of the species *Sus scrofa*, and a pig with a particular individuality of its own. That is to say, the author ignores what His has termed the period of the passage of the embryo into the fetus, the point when the unfolding of the embryo is about finished.

The work, which with so large a number of fine plates is remarkably cheap, is being published by the aid of the Imperial Academy of Sciences, Vienna.

*Les Fleurs du Midi.* By P. Granger. Pp. viii + 371. (Paris : J. B. Bailliére et Fils, 1902.)

THE vast quantity of early flowers which reaches this country in the early spring from the Mediterranean region might lead one to suppose that the conditions of the climate there are entirely favourable to the forcing and rapid development of plants. A perusal of this book indicates that the gardeners of the littoral do not find circumstances by any means so propitious, for the east wind causes drooping of the leaves and withering of the flowers, while the mistral coming from the north-west at times blows with such force that trees are uprooted and shelters overthrown.

The various protective devices, whether hedges or trees, glass frames, straw mats, &c., are fully described and illustrated, together with the conditions under which they may advantageously be employed. Then follows a discussion of various details, such as manures, insecticides, the best methods of gathering and packing, and the cost of freight. The main bulk of the book treats of the plants which lend themselves to cultivation during the winter, with an enumeration of species and varieties which are suitable to the climate and likely to yield a remunerative return for time and money expended in their production. The book is essentially practical and represents the outcome of several years' experience. The

type is good and the illustrations form an important feature, being artistic and at the same time expressive and useful.

*Physiology for Beginners.* By Leonard Hill, M.B., F.R.S. Pp. viii + 124. (London : Edward Arnold, 1902.) Price 1s.

IN this tiny volume the author has set himself the difficult task, as he describes it in his preface, of putting in simple language the essential facts concerning the structure and functions of the human body.

The book is intended for junior students who have no previous knowledge of the subject, and it may be said that the author has put forward the main essentials of the subject in an attractive way such as ought to engage the interest of school children, for whom the book is obviously intended. The author clothes his subject in the homeliest possible phraseology, avoiding technical terms and hard names so far as can be done in dealing with such an abstruse subject, and instead of giving dull definitions he suggests and then answers questions which must arouse interest in the juvenile mind.

Although mainly written for use as an elementary school book, the volume may be recommended to anyone who wishes to obtain some knowledge of the functions of the different organs of the body without the trouble of a detailed or technical study of the subject.

The book is artistically got up and adorned with many clear and well-drawn illustrations of the subject-matter.

B. MOORE.

*Die Philosophie August Comte's.* By L. Lévy-Bruhl. German translation by H. Molenaar. Pp. 286. (Leipzig : Dürr'schen Buchhandlung, 1902.) Price Mk. 6.

THIS is a careful translation into German of a full and sympathetic study of Comte's positivist philosophy in all its aspects. M. Lévy-Bruhl is not one of those more cautious disciples who, like Littré, rejected Comte's religion in the name of his philosophy. He boldly defends the whole later development with its curious substitute for Catholicism as a necessary consequence of the original Comtian conception of a reform of society operating by means of a reform of philosophy. The actual subject of his book is, however, the philosophy apart from the subsequent developments. He treats with lucidity and knowledge in his first book of the foundations of the positivist doctrine, the alleged "law of the three stages," the classification of the sciences and the concept of law. In books ii. and iii. he presents a sketch of the natural and social sciences, exhibiting their interrelation. The concluding book is devoted to an exposition of the positivist ethics. The translation reads well and pleasantly, and makes one wish that we in England, where Comte is more talked about than studied, possessed a statement of his doctrine at once so lucid and so concise.

A. E. T.

*Elementary Coal Mining.* By George L. Kerr. Pp. 225. (London : Charles Griffin and Co., Ltd. 1902.) Price 3s. 6d.

THIS volume "is meant as an introductory manual to the larger and more advanced text-books." The subject-matter is dealt with in fourteen chapters, at the end of each of which there are examination questions. The information is given concisely and in a form adapted for easy assimilation by students preparing for the examinations held under the Education Department and the County Councils and under the Home Office for under-managers' certificates. There is no striking novelty in arrangement or in the matter dealt with. The 200 illustrations are good and clear. Several of them appear to have been borrowed from Mr. Herbert W. Hughes's well-known text-book, with no mention of the source.

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#### LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. No notice is taken of anonymous communications.]

#### Earthquake of May 28 at the Cape, and Coincident Meteorological Effects.

As certain peculiar meteorological phenomena seem to have been closely associated with the earthquake felt in the Cape Peninsula on May 28, the following particulars of this occurrence seem to deserve notice.

After being practically calm all day, a loud sound resembling a clap of thunder or the rumbling of approaching heavy waggons was heard about 11.45 p.m. (Cape mean time of 22° east), followed in Cape Town and Green Point by a heavy downpour of rain, and in the suburbs by a severe squall of wind and rain; practically simultaneous with the sound there occurred a shaking and rattling of windows and doors; some state they felt also a distinct shock, others that their beds rocked, while information was received of the cracking of the walls of at least two dwelling houses. The wind-squall was strong enough to uproot or blow down trees in some of the eastern suburbs. One gentleman, whose written account is in our possession, states that "it fairly shook the room and its contents which I occupy at Rosebank; shortly afterwards a similar sound (tremor?) was felt; it lasted only a few seconds and died away." Dogs were apparently conscious of the occurrence, one which was never known to be affected by thunder or lightning moving about and whining in a peculiar manner, while a parrot indicated by its screeching that it was sensible of something unusual happening.

Our meteorological records show that rain fell (except on May 19) every day from May 17 to May 24, amounting to 3'10 inches at the Royal Observatory and to 7'45 inches at Newlands. Between the 24th and 28th, although no rain fell, there was almost an entire absence of drying winds, being chiefly light from the N.W., from which direction comes the bulk of the Cape Peninsula rainfall.

Barometric pressure was high<sup>1</sup>, 30'071 inches at 8 a.m. on May 27, but fell steadily to 29'775 inches at 6 p.m. on May 28, after which it remained stationary, so far as hourly eye-readings showed, until 11 p.m.; between 11 p.m. and midnight it fell to 29'717 inches, and rose rapidly to 29'771 inches at 12.15 a.m. on May 29, to 29'809 inches at 12.25 a.m., and to 29'817 at 12.30 a.m., unusually large and rapid fluctuations for the Cape Peninsula, and suggesting at once the presence of thunderstorms in the neighbourhood. These rapid variations in pressure might account for the rumbling sound, on the superposition of it being thunder, also for the wind-squall, and even for the rattling of doors and windows (not affected by ordinary winds), but fails to account for the "rocking" of the beds, the cracking of walls and the unusual behaviour of the dog already mentioned, all these inducing the belief that an actual "earthquake" was experienced.

No record of any seismic disturbance was, however, shown on the seismometer at the Royal Observatory.

The lightkeeper at Cape Point makes these remarks on his meteorological schedule for May:—"28th: wind S.E. to S.W., light; silent lightning from N. to N.W. at 8 p.m., then thick fog from 10.30 p.m., and a light drizzling shower at 11.45 p.m. Fog and rain till midnight, then thunder and lightning at midnight; again rain off and on from 1.40 a.m. till 8 a.m. on May 29."

Through the courtesy of Mr. D. E. Hutchins, Conservator of Forests, the writer has been enabled to examine his barogram obtained at Cape Town for the period between Tuesday, May 27, and Sunday, June 1. This record shows a dip in the curve occurring after 11 p.m. on May 28. Similar irregularities are recorded for the early mornings of May 29 and 31; these too were associated with thunderstorms, but may be connected with the West Indian eruptions of about the same date, an account of which is given in your issue of June 5.

In the absence of fuller information than is in our possession at present, no definite connection can be traced, but these phenomena seem to be closely related one to the other. At least, it will be admitted that a comparison of this barographic curve with the diary of events in the West Indies shows some

<sup>1</sup> Corrected to 32° Fahr., but not to sea-level; approximate height of barometer, 40 feet.